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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/684,729	10/06/2000	Thomas R. ST.Myer	TRW(RG)4902	1573

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CLEVEVLAND, OH 44114

EXAMINER

MCANULTY, TIMOTHY P

ART UNIT	PAPER NUMBER
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3682

DATE MAILED: 05/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/684,729

Applicant(s)

ST.MYER, THOMAS R. *ES*

Examiner

Timothy P McAnulty

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 May 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 13-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,9,10,13-17,19,24, and 26 is/are rejected.
- 7) ☒ Claim(s) 3,5-8,18,20-23 and 25 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1,2,4,9,10,13-17,19,24, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pfenninger, Jr., et al. in view of Cartwright et al. and in further view of Kidzun et al.

Pfenninger, Jr., et al. discloses in figure 1, an axially extending input shaft 16; a housing 17; a bearing interposed between the housing and the input shaft; at least one series of axially spaced annular ribs 32 wherein adjacent ribs are separated by an annular groove; and a gasket 22 encircling the bearing having ribs and on an outer surface of said gasket. Pfenninger, Jr., et al. does not disclose said input shaft connected to a vehicle steering wheel as part of a vehicle steering column. However, Cartwright et al. teaches in figure 2 a vehicle steering column 10 including an input shaft 16 connected to a steering wheel 18 and connected via a universal joint 46 to a lower steering column member 12; and a housing 32 having a flange portion for connecting to the lower steering column member and a cavity wherein a first and second bearing 34 are located; said first and second bearing being separated by a smooth annular. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the input shaft of Pfenninger, Jr. et al. connected to a steering wheel in view of the teachings of Cartwright et al. that it is old and well known in the art to provide axial support for an input shaft of a vehicle steering wheel with a bearing located within a housing. Pfenninger, Jr., et al. also does not disclose an inner surface of said gasket being cylindrical and engaging the outer race of said bearing or said ribs having a flat

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peak or said annular groove having a flat valley. However, Kidzun et al. teaches in figures 1 and 2 a steering column including a gasket member 8 having a cylindrical inner surface engaging the outer race of a bearing and a ribbed outer surface. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Pfenninger, Jr., et al. in view of the teachings of Kidzun et al. to include a gasket having a cylindrical inner surface engaging the outer race of a bearing and a ribbed outer surface to reduce the number of elements required to resist axial movement of the bearing.

Response to Arguments

3. Applicant's arguments filed 01 May 2003 have been considered but are not persuasive. Cartwright et al. clearly teaches said steering column comprising a universal joint, an input shaft connected via said universal joint to a lower steering column for connecting to steerable wheels of a vehicle, wherein the input shaft is tiltable relative to the lower steering column.

Response to Amendment

4. The declaration under 37 CFR 1.132 filed 01 May 2003 is sufficient to overcome the rejection of claims 3 and 5-8 based upon 35 USC 103(a) as being unpatentable over Pfenninger, Jr., et al. in view of Cartwright et al. in further view of Kidzun et al. and that the claimed dimensional limitations are a matter of engineering design choice.

Allowable Subject Matter

5. Claims 3,5-8,18,20-23, and 25 allowed.

6. The following is an examiner's statement of reasons for allowance: The prior art discloses the basic apparatus as previously cited but does not disclose or teach the mechanical benefits of the exact claimed ranges of the dimensional limitations of each rib; specifically each

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rib having: a width within the range of 0.068 inches to 0.078 inches, a height in the range of 0.025 inches to 0.035 inches, a flat peak having an axial length in the range of 0.012 inches to 0.022 inches, and side surfaces extending from a bottom surface at an angle of approximately 57 degrees and a flat valley between each rib having: an axial length in the range of 0.012 inches to 0.022 inches.


Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

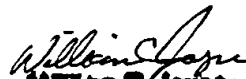
Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy P McNulty whose telephone number is 703.308.8684. The examiner can normally be reached on Monday-Friday (7:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bucci can be reached on 703.308.3668. The fax phone numbers for the organization where this application or proceeding is assigned are 703.305.7687 for regular communications and 703.305.7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703.308.1113.

tpm 
May 15, 2003

 5/15/03
William C. Joyce
Patent Examiner